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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/702,469	10/31/2000	Eli Oklejas, Jr.	OKL 0120 PUS	1105

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EXAMINER

FORTUNA, ANA M

ART UNIT	PAPER NUMBER
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1723

DATE MAILED: 04/19/2002

3

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/702,469

Applicant(s)

Oklejas, Jr.

Examiner

Ana Fortuna

Art Unit

1723



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on Oct 31, 2000

2a) ☐ This action is FINAL.

2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 1-20

4a) Of the above, claim(s) _____ is/are pending in the application.

5) ☐ Claim(s) _____ is/are withdrawn from consideration.

6) ☒ Claim(s) 1-20 is/are allowed.

7) ☐ Claim(s) _____ is/are rejected.

8) ☐ Claims _____ is/are objected to.

_____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

a) ☐ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. _____

3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

15) ☒ Notice of References Cited (PTO-892)

16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 2

18) ☐ Interview Summary (PTO-413) Paper No(s). _____

19) ☐ Notice of Informal Patent Application (PTO-152)

20) ☐ Other: _____

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DETAILED ACTION

Claim Rejections - 35 USC § 112

1. Claims 1-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The coupling of the second channel is unclear as to whether both first and second channels are in fluid communication and couple to the high pressure outlet, or as to whether the first channel is fluidly connected to the first channel or viceverse.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321© may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 1-6 are rejected under the judicially created doctrine of double patenting over claims 13-15 of U. S. Patent No. 6,345,961 since the claims, if allowed, would improperly extend the "right to exclude" already granted in the patent.

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The subject matter claimed in the instant application is fully disclosed in the patent and is covered by the patent since the patent and the application are claiming common subject matter, as follows: the reverse osmosis membrane system including the turbine pump having a common shaft and the claimed connection of the claims above (Fig. 11, 26, column 7, lines 9-43, column 8, lines 38-47, column 12, lines 22-68).

Furthermore, there is no apparent reason why applicant was prevented from presenting claims corresponding to those of the instant application during prosecution of the application which matured into a patent. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-6, 10, 11, 12, 16, 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oklejas et al (4,966,708)(hereinafter '708). Reference '708 discloses the process chamber having a reverse osmosis membrane, the feed pump and the pumps, and the pump/turbine combination having a common shaft, a second channel couple to the retentate outlet, and to said

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turbine (Fig. 2, elements 9, 11, 41, 45, 27, 29, Fig. 15, element 61, column 4, lines 42-58). The shaft connection between turbine and pump is also discussed in column 2, lines 1-15. The second channel connected to the chamber and first channel or retentate outlet is also disclosed in '708 (Fig. 10). '708 fails to disclose the second pump in the system ,e.g. pump (9), as a "buster pump" , however, the pump (9) is disclosed as having a pump impeller mounted on a rotor shaft (61) to which turbine impeller is also mounted, causing to draw saltwater (fluid) to the pump and passing the water to the reverse osmosis membrane. Therefore, since both structures ,e.g the buster pump of the present invention, and the feed pump disclosed in reference '708, seems to operate the same way, the feed pump of reference '708 can be considered a "buster pump". Reference '708 also discloses connecting the turbine to the outlet other buster pump (5) (Fig. 4), before pump (9). Therefore, the increase in fluid pressure to increase feed pressure by connecting , or operating buster pump to the turbine shaft it would have been obvious to one skilled in the art at the time the invention was made. Regarding claims 5-6, placing valves between booster pump and feed pump, and in a second channel is admitted prior art (Fig. 2, elements 19, 28). It would have been obvious to one skilled in the art at the time the invention was made to control the feed inlet to the pump, and or control back flow to the pump, and controlling retentate discharge respectively. Regarding claim 10, the discussion above apply, since the claim is a combination of limitations of claims 1-4. Regarding claim 11, recirculating a portion of the retentate at a position between the feed pump and pressure chamber is known in the art and admitted in (prior art) Fig. 1. It would have been obvious to one skilled in the art at the time the invention was made to

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recycle a retentate portion back to the pump (buster pump) or pump before the membrane, at a position after the pump or before the pump, to mix with the feed, in the first instance, to increase the feed pressure by the buster or feed pump, as suggested in the prior art (Figures 1-2 of Applicant's disclosure). The process of using the apparatus, as claimed in claims 16-17, which include combination of limitations of claims 10 and 11, 12, are disclosed as corresponding to the liquid filtration with the apparatus disclosed in '708.

6. Claims 8, 9, 13, 14, 15, 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oklejas et al (4,966,708)('708) as applied to claims 1, 10 and 16 above, and further in view of Pelmuder (4,243,523)(hereinafter '523). Reference '708 fails to disclose providing the reverse osmosis membrane system with a jet pump (eductor). '523 discloses providing a membrane system having a pressurized reverse osmosis chamber with a feed pump and a buster pump or recirculation pump(7), and further providing and eductor in the feed conduit though which concentrate is recirculated back to the process (element 20, Figures 2, 6, 7). Regarding claim 18, passing two retentate streams back to inlets of the eductor or jet pump is disclosed in '523 (Fig. 6, elements 20, 14, 81). Passing a single stream of retentate is also suggested (fig. 7, elements 81, 20). As to claim 19, fig. 6, of reference '523, also suggest connecting the retentate stream to a pump and to a feed stream (elements 11, 7, 14, and 6). Regarding claim 20, positioning the eductor before the chamber (containing the membrane), or between feed pump and buster pump is suggested in '523 (figures 1, 6 and 6). It would have been obvious to one skilled in the art at the time the invention was made to use and eductor at the positions suggested by '523, or at any

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other position or mixing point, to convert the pressure energy of the operating fluid to velocity energy, and reduce the pressure of the operating fluid, as suggested by '523 (column 7, lines 10-25).

7. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Keefer (4,973,408)('408). Reference '408 discloses the membrane, and pump turbine with common shaft (elements 125, 102, 107, 106, 105, 120, Fig.1). The second channel connected to the retentate outlet and turbine is also disclosed (element 132). The pump 105 is disclosed as centrifugal pump (buster pump). The second conduit connected to the retentate is not directly connected to the housing, however is fluidly connected to it and to the retentate discharge. It would have been obvious to one skilled in the art the time the invention was made, and depending on recirculation requirements, to divert the retentate at a point before the expander (turbine). The system also provides a feed pump 112) before the (feed pump 105), (column 9, lines 25-68, column 10, lines 1-41).

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. References 6,139,740, 6,017,200, 5,320,755, and 4,187,200B1 disclose retentate recirculation with respect to the pumps at different points of the feed inlet conduit, the pump/turbine arrangement applied to more than one retentate stream from the membrane respectively.

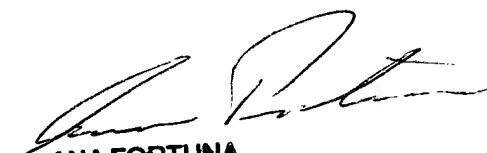
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9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ana Fortuna whose telephone number is (703) 308-3857. The examiner can normally be reached on Monday-Friday from 9:30 to 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda Walker, can be reached on (703) 308-0457. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9310 for regular responses, and (703)872-9311 for after finals.

Ana Fortuna

February 27, 2002



ANA FORTUNA
PRIMARY EXAMINER